

What is claimed is:

1. A telescoping pier foundation system comprising:
a stationary portion of a hollow structure having a top end opening;
at least one telescoping member of a hollow structure having a top open end and a bottom open end, in longitudinal alignment with the stationary portion, residing within the top end opening of the stationary portion and longitudinally movable within the top end opening and extendable through the top end opening; and
at least one fill port for receiving a cementitious mixture, wherein
the stationary portion and the telescoping member form an outer shell defining an internal cavity in communication with the at least one fill port for receiving the cementitious mixture.
2. The telescoping pier foundation system of claim 1, wherein the fill port for receiving a cementitious mixture is on the telescoping member.
3. The telescoping pier foundation system of claim 2, wherein the fill port for receiving a cementitious mixture is provided near the top end of the telescoping member.
4. The telescoping pier foundation system of claim 1, wherein the fill port for receiving a cementitious mixture comprises a check valve.
5. The telescoping pier foundation system of claim 1, wherein the one or more fill port for receiving a cementitious mixture is provided on the stationary portion.

6. The telescoping pier foundation system of claim 1, further comprising at least one ground anchor for anchoring the composite pier foundation to the ground.

7. The telescoping pier foundation system of claim 6, wherein the at least one ground anchor is a helical anchor.

8. The telescoping pier foundation system of claim 1, wherein the telescoping member comprises a fastening system for securing the telescoping member to a structural member of a building.

9. The telescoping pier foundation system of claim 8, wherein the fastening system comprises one or more brackets for engaging the structural member of a building.

10. The telescoping pier foundation system of claim 9, wherein the fastening system further comprises a connector for securing the one or more brackets to the telescoping member.

11. The telescoping pier foundation system of claim 1, wherein the cementitious mixture is concrete.

12. The telescoping pier foundation system of claim 1, wherein the stationary portion comprises:

a base; and

a column portion, wherein the top end opening is provided on the column portion.

13. The telescoping pier foundation system of claim 1, wherein the stationary portion is made from polyvinylchloride.

14. The telescoping pier foundation system of claim 1, wherein the stationary portion is made from a metal alloy.

15. The telescoping pier foundation system of claim 1, wherein the at least one telescoping member is made from polyvinylchloride.

16. The telescoping pier foundation system of claim 1, wherein the at least one telescoping member is made from a metal alloy.

17. The telescoping pier foundation system of claim 12, wherein the base is made from polyvinylchloride.

18. The telescoping pier foundation system of claim 12, wherein the base is made from a metal alloy.

19. The telescoping pier foundation system of claim 12, wherein the column portion is made from polyvinylchloride.

20. The telescoping pier foundation system of claim 12, wherein the column portion is made from a metal alloy.

21. The telescoping pier foundation system of claim 12, wherein a plurality of reinforcement ribs are provided joining the base and the column portion.

22. The telescoping pier foundation system of claim 8, wherein the fastening system comprises an anchoring portion for anchoring the fastening system to the cementitious mixture filling the internal cavity.

23. A composite pier foundation, for supporting a structural member of a building structure, comprising:

an outer shell comprising:

a stationary portion of a hollow structure having a top end opening;

at least one telescoping member of a hollow structure having a top open end and a bottom open end, in longitudinal alignment with the stationary portion, residing within the top end opening of the stationary portion, longitudinally movable within the top end opening and extendable through the top end opening;

at least one fill port for receiving a cementitious mixture, wherein

the stationary portion and the telescoping portion form an outer shell defining an internal cavity in communication with the at least one fill port for receiving the cementitious mixture; and

a core of cured cementitious material substantially filling the internal cavity.

24. The composite pier foundation of claim 23, further comprising at least one ground anchor having a top portion and a shaft portion, wherein the shaft portion of the ground anchor is driven into the ground beneath the composite pier foundation and the top portion is imbedded in the cured cementitious material.

25. The composite pier foundation of claim 24, wherein the stationary portion is made from polyvinylchloride.

26. The composite pier foundation of claim 24, wherein the at least one telescoping member is made from polyvinylchloride.

27. The composite pier foundation of claim 24, wherein the stationary portion is made from a metal alloy.

28. The composite pier foundation of claim 24, wherein the at least one telescoping member is made from a metal alloy.

29. The composite pier foundation of claim 24, wherein the stationary portion comprises:

a base; and

a column portion, wherein the top end opening is provided on the column portion.

30. The composite pier foundation of claim 29, wherein the base is made from polyvinylchloride.

31. The composite pier foundation of claim 29, wherein the base is made from a metal alloy.

32. The composite pier foundation of claim 29, wherein the column portion is made from polyvinylchloride.

33. The composite pier foundation of claim 29, wherein the column portion is made from a metal alloy.

34. The composite foundation of claim 22, wherein the cured cementitious mixture is concrete.

35. The composite foundation of claim 22, wherein the at least one telescoping member comprises a fastening system for securing the telescoping member to a structural member of a building.

36. The composite foundation of claim 35, wherein the fastening system comprises one or more brackets for engaging the structural member of a building.

37. The composite foundation of claim 36, wherein the fastening system further comprises a connector for securing the one or more brackets to the telescoping member.

38. The composite foundation of claim 35, wherein the fastening system comprises an anchoring portion for anchoring the fastening system to the cementitious mixture filling the internal cavity.

39. A method of installing a telescoping pier foundation system, the method comprising:

positioning an outer shell of the telescoping pier foundation system beneath a structural member of a building, the outer shell having an internal cavity;

raising a telescoping member of the outer shell until the telescoping member contacts the structural member of the building;

securing the telescoping member to the structural member of the building;

filling the internal cavity of the outer shell with a cementitious mixture; and

allowing the cementitious mixture to cure forming a composite pier foundation.

40. The method of claim 39, further comprising a step of first driving at least one ground anchor having a top portion into the ground beneath the structural member of the building, wherein when the outer shell of the telescoping pier foundation system is positioned beneath the structural member of the building, the outer shell covers the at least one ground anchor and the top portion of the ground anchor extends into the internal cavity of the outer shell.